



Short- and long-term outcomes of heatstroke following the 2003 heat wave in Lyon, France

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Abstract:

BACKGROUND: During August 2003, Europe sustained a severe heat wave that resulted in 14 800 heat-related deaths in France. Most of these excess deaths occurred in urban areas, where maximal temperatures broke all records. Heatstroke is the most severe form of heat-related illness. The clinical course of heatstroke in urban areas of temperate countries is poorly documented. **METHODS:** During the French heat wave (August 1-20, 2003), we conducted a prospective study in a university hospital located in Lyon, one of the largest metropolitan areas in France. We evaluated survival and functional outcome for 2 years and looked for factors influencing the prognosis. **RESULTS:** A total of 83 patients presented with heatstroke. The 28-day and 2-year mortality rates were 58% and 71%, respectively. Mortality was influenced as early as admission by the level of fever and the number of organ dysfunctions. Multivariate analysis revealed an independent contribution to mortality if patients came from an institution (hazard ratio [HR], 1.98; 95% confidence interval [CI], 1.05-3.71), used long-term antihypertensive medication (HR, 2.17; 95% CI, 1.17-4.05), or presented at admission with anuria (HR, 5.24; 95% CI, 2.29-12.03), coma (HR, 2.95; 95% CI, 1.26-6.91), or cardiovascular failure (HR, 2.43; 95% CI, 1.14-5.17). Most surviving patients exhibited a dramatic alteration of their functional status at 1 and 2 years. **CONCLUSIONS:** Heatstroke is associated with poor outcomes in temperate urban areas. This could be explained at least in part by our lack of experience. Western temperate countries need to be more prepared for future heat waves.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Temperature

Temperature: Extreme Heat

Geographic Feature:

resource focuses on specific type of geography

Urban

Geographic Location:

Climate Change and Human Health Literature Portal



resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : France

Health Impact:

specification of health effect or disease related to climate change exposure

Injury, Morbidity/Mortality, Other Health Impact

Other Health Impact: heat stroke

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Elderly

Other Vulnerable Population: people with hypertension; people in institutions

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified